(740.9), and the wind blew with the force of a strong gale from nne.

10.—This is a continuation of the disturbance described as low area ix., under "Areas of low barometer." It passed over southern Labrador during the 17th, and on the 18th it was shown near N. 54°, W. 52°, in which region the pressure ranged from 29.38 (746.2) to 29.53 (750.6). It moved eastward during the day, and on the 19th its presence was indicated by the reports as near N. 53°, W. 42°, where the pressure was about 29.6 (751.8); after the 19th this disturbance cannot be traced as a distinct depression, having probably merged in low area 8, which appeared to the southeastward.

11.—On the 24th the reports of the barks "Daphne" and "Betzy" indicated the presence of a disturbance near N. 42°, W. 40°, both vessels having encountered winds of hurricane force on that date. By the following day the disturbance had reached N. 52°, W. 20°, in which region a decrease of pressure averaging .45 inch had occurred since the observation of the 24th. The s. s. "Saint Laurent," M. de Jousselin commanding, reported as follows: 24th. During the afternoon the barometer began to fall rapidly, with s. wind of force 5; at 2.20 p. m. it read 29.93 (760.2), and at 10.20 p. m. 29.77 (756.2). From midnight to 2 a. m. of the 25th the wind shifted from e. to ne. and slightly moderated. At 2.15 a. m. it suddenly shifted in a squall to nw. and blew with hurricane force for two hours. The barometer began to rise immediately after the change of wind. At 5 a. m. the weather cleared, but the wind continued to blow with a force of 8 until 3 p. m. when it moderated. At 2.30 a. m. of the 25th, in N. 50° 06′, W. 31° 16′, the lowest barometer reading was 28.79 (731.2), and by noon of that date it had risen to 29.85 (758.2). The bark "Amelia," in N. 46° 00′, W. 37° 30′, had a hurricane which lasted six hours, with barometer falling to 28.6 (726.4). Very heavy gales continued during the 25th and 26th over the region between N. 50° and 60° and W. 20° and 30°, the winds being from s. and sw. on the twentieth meridian and from w. and nw. in W. 30°. By the 27th the disturbance was near the British coasts.

12.—This is a continuation of the disturbance described as number xiii., under "Areas of low barometer." It passed northeastward over Labrador during the 25th, and was shown to the northward of N. 55° on the following day. On the 26th the bark "Fluorine," A. Wilson commanding, in N. 55° 04′, W. 49° 20′, reported barometer 29.3 (744.2), a fall of .36 inch, wind wnw., force 4, rough sea and cloudy weather. By the 27th the disturbance had passed beyond the range of the observations.

13.—This was a continuation of low area xv. It moved over the Gulf of Saint Lawrence during the 29th, and at the close of the month it appeared central off the eastern coast of Newfoundland, the lowest recorded pressure being 29.36 (745.7), wind sw., force 4. Strong s. breezes to moderate gales were reported over the ocean from W. 50° eastward to W. 40°, with moderate w. breezes to the southward of the Banks.

OCEAN ICE.

Chart i. also exhibits the southern and eastern limits of the region within which icebergs were observed in the north Atlantic ocean during the month of September, 1884. These limits are determined from reports sent to this office by shipmasters; reports furnished through the co-operation of the "New York Herald Weather Service," and from other data published in the "New York Maritime Register."

In September, 1884, the southern limit of the ice-region was about N. 46°, and its eastern limit was near W. 49°. Few icebergs have been observed in the routes of trans-Atlantic steamers, but large masses of ice are reported near the eastern coast of Newfoundland; they are also reported on the southern coast, between Cape Race and Saint Pierre. Icebergs were also encountered between W. 40° and 45° and north of the fifty-fifth parallel.

As compared with the chart for the preceding month (August), there has been a notable decrease in the extent of the ice-region; its eastern limit in September being about 5° west of that for the preceding month, while its southern boundary is about 2° 30′ north of the August limit.

In September, 1883, not more than half a dozen icebergs were observed within the region between W. 44° and the Newfoundland coast, and none were reported south of N. 48°. In the same month of 1882 no icebergs were reported.

Icebergs were observed during September, 1884, as follows:

Captain D. Thoms, commanding the brigantine "Corisande," reported: "August 31st, passed a large number of icebergs within a radius of twenty miles of Bonavista light house; about twenty miles sse. of Bonavista passed a large ice-island about four miles long, extending from e. to w., and about two miles broad, and having a height of from 100 to 200 feet. As we continued on our course we passed a large number of large and small bergs, until off Fogo, when the vessel had to be steered clear of broken ice for about six miles; then got into clear water. On September 4th, arrived at Loup Bay, Labrador, passing four small icebergs in the Strait of Belle Isle; on the 25th, in N. 51° 35′, W. 54° 40′, passed a large iceberg, and on the 27th saw a large ice-island and several small bergs off Cape Spear."

September 2d.—Captain Wilson, commanding the bark "Fluorine," reported: "On the 2d passed a large iceberg in N. 48° 50′, W. 50° 49′. 3d.—In N. 51° 43′, W. 50° 50′ also passed a large iceberg; same day, from N. 51° 56′ to N. 52° 32′, passed eight icebergs within four miles of vessel's track on a due north course. September 5th, sighted a few icebergs near the Greenland coast. On the 8th, 9th, and 10th very many icebergs in sight."

September 4th.—S. S. "Lake Huron," from 180 miles east of Belle Isle to Belle Isle, passed several large and small icebergs.

10th.—S. S. "Lord Gough," in N. 47° 39′, W. 49° 14′, passed a large but low iceberg.

19th.—Bark "Armenia," in N. 56°, W. 40° to 45°, passed six icebergs.

24th.—S. S. "Norwegian," off Cape Race, passed three large icebergs.

British s. s. "Bristol," from Montreal for Bristol, at Saint John's on September 27, reported having passed three hundred and seventy-five icebergs between Cape Freels and Cape Race.

28th.—S. S. "Saint Laurent," fifteen miles ese. of Cape Race, passed an iceberg.

October 2d.—S. S. "Illinois, in N. 46° 06′, W. 53° 21′, passed several large and small icebergs. Schooner "Busiris," at North Sidney, reported having seen forty-three large and small icebergs between Cape Spear and Cape Race.

3d. S. S. "Normandie," from N. 46° 27′, W. 55° 21′ to N. 46° 18′, W. 55° 51′, passed thirteen icebergs, some of large dimensions.

TEMPERATURE OF THE AIR.

[*Expressed in degrees, Fahrenheit.*]

The distribution of mean temperature over the United States and Canada, for September, 1884, is exhibited on chart ii., by the dotted isothermal lines; and chart iv. shows the departures from the September normal. From an examination of the last-named chart it will be seen that the mean temperature is above the normal at all stations east of a line running from southern New Mexico, near El Paso, Texas, to the northern boundary of Dakota, with the exception of Jacksonville and Key West, Florida, where the temperature is slightly below the normal. Over an area extending from northern Texas, northeastward to the lake region and Ohio valley, the mean temperatures are from 5° to 6° above the normal. To the westward of the line of normal temperature, the means are below the September normal, the departures being marked in the northern and middle plateau districts and in the north and middle Pacific coast regions.

In the following table are shown for each of the several geo-

graphical districts, the normal temperatures for the month of September for a series of years; the mean temperatures for September, 1884, and the departures from the normal, as deduced from the records of the Signal Service:

Average temperatures for September, 1884.

Districts.	Average for Sept. Signal-Service observations.		Comparison of Sept., 1884, with the average for several years.
	For several years.	For 1884.	
	°	°	°
New England	61.7	64.6	2.9 above.
Middle Atlantic states	64.7	71.0	3.3 above.
South Atlantic states	74.1	75.7	1.6 above.
Florida peninsula	80.1	80.1	normal.
Eastern Gulf states	74.7	77.4	2.7 above.
Western Gulf states	75.8	79.4	3.6 above.
Rio Grande valley	80.8	81.5	0.7 above.
Tennessee	70.0	74.2	4.2 above.
Ohio valley	67.2	72.3	5.1 above.
Lower lake region	62.2	65.9	3.7 above.
Upper lake region	58.5	62.0	3.5 above.
Extreme northwest	54.5	55.4	0.9 above.
Upper Mississippi valley	64.2	69.5	5.3 above.
Missouri valley	61.6	65.2	3.6 above.
Northern slope	56.2	53.6	2.6 below.
Middle slope	64.1	68.0	3.9 above.
Southern slope	70.1	74.2	4.1 above.
Southern plateau	73.0	70.8	2.2 below.
Northern plateau	59.2	54.5	4.7 below.
North Pacific coast region	58.3	55.3	3.0 below.
Middle Pacific coast region	67.3	63.5	3.8 below.
South Pacific coast region	72.9	70.2	2.7 below.
Mount Washington, N. H	40.7	41.4	0.7 above.
Pike's Peak, Colo	31.2	32.0	0.8 above.
Salt Lake City, Utah	64.9	58.8	6.1 below.

The following are some of the highest and lowest monthly mean temperatures reported from the Signal Service stations:

Stations reporting highest.		Stations reporting lowest.	
	°		°
Galveston, Texas	83.5	Pike's Peak, Colorado	32.0
Rio Grande City, Texas	82.7	Mount Washington, New Hampshire	41.4
Key West, Florida	82.2	Fort Klamath, Oregon	43.8
Indianola, Texas	81.0	Fort Maginnis, Montana	47.1
New Orleans, Louisiana	80.9	Lake View, Oregon	47.8
Brownsville, Texas	80 3	Fort Shaw, Montana	48.1
Cedar Keys, Florida	80.3	Linkville, Oregon	48.8
Shreveport, Louisiana	80.2	Fort Bridger, Wyoming	49.3
Maricopa, Arizona	79.8	Helena, Montana	49.7
Palestine, Texas	79.6	Fort Assinaboine, Montana	50.2
Pensacola, Florida	79.5	Fort Spokane, Washington Territory	50.8
Montgomery, Alabama	79.0	Port Angeles, Washington Territory	51.0
Mobile, Alabama	78.3	Fort Bidwell, California	57.4

DEVIATIONS FROM MEAN TEMPERATURE.

The departures exhibited by the reports from the regular Signal Service stations are shown in the table of average temperatures for September, 1884. The following notes in connection with this subject are reported by voluntary observers:

Arkansas.—Lead Hill, Boone county: mean temperature, 76°.4, is 5°.6 above the September average for the last three years.

Dakota.—Webster, Day county: mean temperature 62°.6, is 4°.1 below the September average for the two preceding years.

Illinois.—Anna, Union county: mean temperature, 74°.6, is 5°.9 above the September average for the last nine years.

Swanwick, Perry county: mean temperature, 72°.3, is 3° above the average for the last three years.

Mattoon, Coles county: mean temperature, 73°.0, is 5°.7 above the September average for the four preceding years.

Sycamore, De Kalb county: mean temperature, 68°.8, is 5°.4 above the September average for the three preceding years.

Riley, McHenry county: mean temperature, 65°.2, is 5°.1 above the September average for the last twenty-three years; only September, 1865, was warmer.

Collinsville, Madison county: mean temperature, 72°.3, is 3°.2 above the September normal for this place.

Indiana.—Spiceland, Henry county: mean temperature, 70°.1, is 6°.4 above the September average for the last thirty-one years.

Wabash, Wabash county: mean temperature, 70.5, is 7°.2 above the September average for the last nine years.

Table of maximum and minimum temperatures for September, 1884.

State or Territory.	Signal Service.			U. S. Army Post Surgeons, or Voluntary Observers.		
	Station.	Max.	Min.	Station.	Max.	Min.
		°	°		°	°
Alabama	Montgomery	97	58	Mt. Vernon Barracks	97	57
Do	Mobile	94	61	Birmingham	93	54
Arizona	Wickenburg	105	39	Texas Hill	113	62
Do	Prescott	87	32	Benson	98	58
Arkansas	Fort Smith	100	59	Arkansas City	103	52
Do	Little Rock	93	58	Mount Ida	95	52
California	Red Bluff	95	46	Mammoth Tank	115	70
Do	Fort Bidwell	82	24	Cisco	79	30
Colorado	West Las Animas	95	37	Fort Lyon	95	27
Do	Pike's Peak	47	18	Fort Lewis	75	23
Connecticut	New Haven	90	40	Hartford	94	33
Do	New London	89	45	Southington	93	32
Dakota	Huron	90	30	Fort Randall	97	36
Do	Fort Buford	80	28	Fort Meade	83	20
Delaware	Del. Breakwater	88	55			
District of Columbia	Washington City	97	45	Receiving Reservoir	98	46
Florida	Pensacola	94	65	Limona	90	69
Do	Key West	92	73	Archer	89	65
Georgia	Augusta	91	57	Washington	102	50
Do	Atlanta	88	52	Mossy Creek	91	42
Idaho	Lewiston	82	38			
Do	Coeur d'Alene	74	31			
Illinois	Springfield	91	51	Bunker Hill	100	44
Do	Chicago	89	50	Wilton Centre	92	43
Indiana	Indianapolis	90	45	Connersville	98	46
Do				Princeton	95	45
Indian Territory	Fort Reno	98	50			
Do	Cantonment	98	60			
Iowa	Des Moines	92	43	Ottumwa	95	42
Do	Dubuque	92	47	Monticello	90	30
Kansas	Dodge City	92	46	Manhattan	102	52
Do	Leavenworth	90	49	Allison	97	32
Kentucky	Louisville	92	56	Frankfort	90	50
Louisiana	Shreveport	97	62	Point Pleasant	96	61
Do	New Orleans	92	70	Luling	93	59
Maine	Portland	88	40	Cornish	90	36
Do	Eastport	83	38	Orono	80	30
Maryland	Baltimore	93	49	Great Falls	96	46
Do	Ocean City	86	52	Woodstock	91	37
Massachusetts	Boston	94	40	Taunton	97	37
Do	Thatcher's Island	85	45	Heath	92	32
Michigan	Alpena	93	35	Mendon	98	44
Do	Port Huron	92	39	Hudson	95	32
Minnesota	Saint Paul	87	44	Chester	93	35
Do	Saint Vincent	80	32	Fort Snelling	95	38
Mississippi	Vicksburg	94	62	Hernando	100	50
Do				Milan	95	48
Missouri	Saint Louis	92	54	Harrisonville	99	60
Do				Centerville	92	38
Montana	Fort Benton	89	24	Fort Keogh	86	28
Do	Fort Shaw	80	21	Fort Ellis	85	25
Nebraska	Omaha	90	49	Red Willow	96	34
Do	North Platte	91	40	De Soto	91	39
Nevada				Golconda	98	41
Do				Elko	90	23
New Hampshire	Mount Washington	63	14			
New Jersey	Sandy Hook	94	52	Readington	104	50
Do	Cape May	84	48	Vineland	92	43
New Mexico	Fort Craig	99	43	Fort Union	82	33
Do	Fort Stanton	83	35	Fort Wingate	81	30
New York	Rochester	92	38	Syracuse	99	42
Do	Oswego	92	46	Palermo	92	34
North Carolina	Wash Woods	94	78	Salisbury	99	43
Do	Charlotte	91	49	Highlands	78	40
Ohio	Columbus	92	46	College Hill	98	52
Do	Toledo	92	47	Wauseon	95	30.5
Oregon	Ashland	90	34	Albany	74	44
Do	Fort Klamath	74	20	Fort Klamath	76	16
Pennsylvania	Pittsburg	100	44	Easton	98	46
Do	Erie	87	43	Troy	91	27
Rhode Island	Block Island	83	49	Providence	92	39
Do	Point Judith	80	42	Nayatt Point	96	44
South Carolina	Charleston	89	62	Anderson	98	46
Do				Greenville	94	44
Tennessee	Memphis	94	61	Milan	97	50
Do	Knoxville	92	50	Ashwood	92	48
Texas	Rio Grande City	103	70	Fort Concho	101	63
Do	Fort Elliott	95	46	Clarksville	95	62
Utah	Salt Lake City	87	37	Nephi	85	28
Do	Fort Thornburg	86	32			
Vermont				Charlotte	92	40
Do				Newport	90	30
Virginia	Fort Myer	95	43	Dale Enterprise	97	42
Do	Lynchburg	94	47	Blacksburg	88	35
Washington Territory	Dayton	82	31	Fort Spokane	81	31
Do	Fort Spokane	78	27	Pleasant Grove	75	22
West Virginia				Helvetia	92	40
Wisconsin	Milwaukee	89	46	Beloit	92	42
Do	La Crosse	88	50	Prairie du Chien	90	46
Wyoming	Cheyenne	82	28	Fort Fred Steele	87	26
Do	Fort Bridger	78	22	Fort Bridger	78	19

Logansport, Cass county: mean temperature, 70°.4, is 4°.2 above the September average for the last twenty-five years.

Iowa.—Professor Gustavus Hinrichs of Iowa City, director of the "Iowa Weather Service," reports the following:

The mean temperature of the air was over 5° above normal, and almost equal to the mean temperature of August, just preceding. During the past forty-five years September was but once decidedly warmer, viz., in 1865,

and only three times has it been as warm, viz., in 1881, 1854, and 1851. The first decade was extraordinarily warm—exceeding the normal temperature by over 9°; the second decade was only 0°.5 above normal; the third decade was again very warm, being nearly 6° above normal.

Monticello, Jones county: mean temperature, 66°.6, is 5° above the September normal for a period of forty-five years.

Kansas.—Lawrence, Sumner county: mean temperature, 70°.4, is 4°.2 above the September average for the last twenty years.

Independence, Montgomery county: mean temperature, 73°, is 2°.6 above the September average for the last thirteen years.

Yates Centre, Woodson county: mean temperature, 73°.9, is 7° above the September average for the last four years.

Table of comparative maximum temperatures for the month of September.

State or Territory.	Maximum for September, 1884, Signal Service.		Maximum since Signal-Service stations were opened—3 to 13 years.			Highest from any other source.			
	Station.	Temperature.	Station.	Temperature.	Year.	Place.	Temperature.	Year.	Length of record.
		°		°			°		Years.
Alabama	Montgomery	97	Montgomery	97	1875, 1877	Mount Vernon Arsenal	98		33
Do	Mobile	94	Mobile	96	1851	Mobile	96		34
Arizona	Fort McDowell	105	Burke's and Yuma	113	1879	Camp McDowell	114	1879	14
Do	Phœnix	105	Stanwix	111	1877	Fort Mojave	109		4
Arkansas	Fort Smith	100	Fort Smith	99	1882	Fort Smith	101		21
Do	Little Rock	93	Little Rock	97	1881	Washington (near)	98		28
California	Red Bluff	95	Red Bluff	100	1877	Fort Miller	114		13
Do	Sacramento	94	Los Angeles	104	1883	Fort Yuma	111		23
Colorado	Denver	88	Denver	93	1878	Fort Lyon	99	1875	19
Do	Pike's Peak	47	Pike's Peak	55	1875	Fort Garland	89		30
Connecticut	New London	89	New London	92	1881	Columbia	94		10
Do	New Haven	90	New Haven	100	1881	New Haven	92		89
Dakota	Fort Bennett	92	Fort Sully	107	1874	Fort Randall	106		24
Do	Yankton	88	Yankton	100	1881	Fort Sully	101		17
Delaware	Delaware Breakwater	88	Delaware Breakwater	93	1881	Fort Delaware	90		45
District of Columbia	Washington City	97	Washington City	104	1881	Washington City	95		49
Florida	Jacksonville	89	Jacksonville	98	1875	Fort Jefferson	100	1871	13
Do	Key West	92	Key West	94	'77, '80, '81	Fort King	100		10
Georgia	Savannah	88	Savannah	96	1876, 1877	Oglethorpe Barracks	99		36
Do	Augusta	91	Augusta	97	1875, 1881	Augusta Arsenal	98		48
Idaho	Boisé City	80	Boisé City	96	1878	Fort Boisé	103	1874	10
Do	Lewiston	82	Eagle Rock	92	1882	Fort Lapwai	95		10
Illinois	Cairo	91	Cairo	97	1881	Manchester	102	1864	11
Do	Chicago	89	Chicago	94	1881	Anna	102	1881	7
Indiana	Indianapolis	90	Indianapolis	94.5	1881	Lacouia	101	1881	7
Do						Vevay	100	1881	15
Indian Territory	Fort Reno	98	Fort Gibson	104.5	1881	Fort Gibson	103		52
Do						Fort Sill	103		4
Iowa	Davenport	90	Davenport	94	1881	Muscatine	103	1881	7
Do	Keokuk	90	Keokuk	97	1881	Fort Madison	98	1881	19
Kansas	Dodge City	92	Dodge City	99	'76, '81, '82	Fort Riley	108		24
Do	Leavenworth	90	Leavenworth	101	1882	Fort Larned	104		14
Kentucky	Louisville	92	Louisville	99	1881	Newport Barracks	96		28
Louisiana	New Orleans	92	New Orleans	92	'75, '77, '81	Fort Jesup	100		23
Do	Shreveport	97	Shreveport	101	1881	Point Pleasant	104	1881	7
Maine	Eastport	83	Eastport	81	1877, 1881	Brunswick	96		53
Do	Portland	88	Portland	94.5	1881	Portland	94		37
Maryland	Baltimore	93	Baltimore	101	1881	Fort Washington	99		38
Do	Ocean City	86				Baltimore	98		37
Massachusetts	Boston	94	Boston	101.5	1881	Fort Warren	100	1872	18
Do	Thatcher's Island	85	Springfield	94	1881	Williamstown	95		55
Michigan	Detroit	89	Detroit and Marquette	97	1874	Thornville	100	1881	3
Do	Port Huron	92	Port Huron	97	1881	Fort Brady	98	1854	51
Minnesota	Saint Paul	87	Saint Paul	94	1878	Fort Snelling	92		60
Do	Moorhead	84	Breckenridge	96	1878	Fort Ripley	92		14
Mississippi	Vicksburg	94	Vicksburg	98	1881	Fayette	98	1881	6
Do						Vicksburg	95		4
Missouri	Saint Louis	92	Saint Louis	101.5	1881	Saint Louis	101	1881	41
Do						Allenton	100		4
Montana	Fort Custer	85	Fort Keogh	99	1882	Tongue River	103	1877	3
Do	Fort Shaw	80	Fort Shaw	91	1880	Fort Shaw	92		10
Nebraska	Omaha	90	Omaha	99	1881	Clear Creek	103	1881	9
Do	North Platte	91	North Platte	101	1881	Genoa	103	1881	8
Nevada			Pioche	92	1878	Fort McDermit	96	1875, 1879	15
Do			Winnemucca	94	1878, 1880				
New Hampshire	Mount Washington	63	Mount Washington	65	1880	Dartmouth College	92		18
Do						Auburn	95	1881	6
New Jersey	Sandy Hook	94	Sandy Hook	101	1881	Atco	104	1881	7
Do	Atlantic City	86	Atlantic City	94	1880	Vineland	104	1881	9
New Mexico	Fort Craig	99	Santa Fé	90	1879	Fort Craig	103		26
Do	Fort Stanton	83	La Mesilla	105	1879	Fort McRae	103		10
New York	Rochester	92	Rochester	98	1881	Poughkeepsie	100		20
Do	New York City	92	New York City	100	1881	Penn Yan	102	1881	16
North Carolina	Wilmington	91	Wilmington	95	1875, 1879	Fort Johnson	98		54
Do	Kitty Hawk	88	Kitty Hawk	95	1880	Fort Macon	92		15
Ohio	Cleveland	89	Cleveland	98	1881	College Hill	102	1881	6
Do	Columbus	92	Columbus	98	1881	Cincinnati	99		35
Oregon	Ashland	90	Umatilla	95	1877	Fort Hoskins	98		9
Do	Portland	72	Portland	90	1879	Fort Yamhill	95		9
Pennsylvania	Philadelphia	94	Philadelphia	101.5	1881	Milton	105	1881	3
Do	Pittsburg	100	Pittsburg	101.6	1881	Philadelphia	93		123
Rhode Island	Point Judith	80	Newport	88	1881	Providence	90		30
Do	Block Island	83	New Shoreham	86	1881	Fort Adams	96	1881	42
South Carolina	Charleston	89	Charleston	94	1876	Fort Moultrie	93		38
Tennessee	Memphis	94	Memphis	98	1881	Humboldt	97		4
Do	Nashville	91	Nashville	98	1881	Ashwood	100	1881	3
Texas	Rio Grande City	103	Rio Grande City	107	1877	Fort Stockton	109		21
Do	El Paso	98	El Paso	104	1879	Fort McIntosh	106		24
Utah	Salt Lake City	87	Salt Lake City	93	1875	Fort Douglas	97	1876	19
Vermont			Burlington	90	1880, 1881	Charlotte	94	1880	7
Virginia	Fort Myer	95	Fort Myer	102	1881	Accotink	104	1881	7
Do	Lynchburg	94	Lynchburg	98	1881	Fortress Monroe	97		48
Washington Territory	Olympia	70	Olympia	81	1877	Fort Walla Walla	98		10
Do	Dayton	82	Almota	94	1882	Fort Vancouver	94		18
West Virginia			Morgantown	91	1881	Flemington	99	1881	5
Wisconsin	Milwaukee	89	Milwaukee	94	1874	Fort Howard	98		30
Do	La Crosse	88	La Crosse	92	1873	Fort Winnebago	91		14
Wyoming	Cheyenne	82	Cheyenne	88	1875	Fort Laramie	99		26

Wellington, Sumner county: mean temperature, 74°.5, is 5°.5 above the September average for the last six years.

Maine.—Gardiner, Kennebec county: mean temperature, 59°.8, is 1°.3 above the September average for the last forty-five years.

Maryland.—Fallston, Harford county: mean temperature, 69°.4, is 4°, above the September average for the last thirteen years, and is the highest for that period; the next highest being 67°.9 for September, 1874.

Massachusetts.—Worcester, Worcester county: mean temperature, 62°.1, is 0°.9 above the September average for the last forty-five years. The highest September mean temperature for the period above mentioned, 69°.6, occurred in 1881; the lowest, 56°.7, occurred in 1883.

Missouri.—Saint Louis: mean temperature, 74°.7, has been exceeded but three times since 1854, viz: 76°.0, in 1854; 74°.9 in 1865, and 76°.2 in 1881.

New Jersey.—South Orange, Essex county: mean temperature, 67°.7, is nearly 4° above the September average for the last fifteen years.

Moorestown, Burlington county: mean temperature, 68°.8, is 3°.8 above the September average.

New York.—Palermo, Oswego county: mean temperature, 62°.0, is 1°.1 above the September average for the last thirty-one years. The highest monthly mean temperature for the period above mentioned, 67°.8, occurred in 1881; the lowest, 54°.0, occurred in 1867.

North Volney, Oswego county: mean temperature, 65°.5, is 4°.9 above the September average for the last seventeen years.

Ohio.—Wauseon, Fulton county: mean temperature, 67°.8, is 5°.2 above the September average for the last fourteen years, and is, with the exception of September, 1881 (mean temperature 71°.1), the highest for that period; the lowest, 57°.2, occurred in 1883.

Pennsylvania.—Dyberry, Wayne county: mean temperature, 60°.8, is 0°.8 above the September average for the last eighteen years.

Texas.—New Ulm, Austin county: mean temperature, 80°.0, is 2°.3 above the September average for the last thirteen years.

Virginia.—Wytheville, Wythe county: mean temperature, 65°.5, is 2°.1 above the September average for a period of twenty years.

Variety Mills, Nelson county: mean temperature, 68°.9, is 2°.0 above the September average for the last seven years, and is, with the exception of 75°.2 for September, 1882, the highest for that period.

West Virginia.—Helvetia, Randolph county: mean temperature, 63°.3, is 1°.8 above the September for the last eight years.

MONTHLY RANGES OF TEMPERATURE.

The monthly ranges of temperature were greatest at Rocky mountain stations, in the upper Missouri valley, at the most northerly lake stations, in New England, Pennsylvania, Maryland, and northern Virginia, where they exceeded 50°. They were least along the immediate coast of the Pacific, at the Gulf stations, and on the Atlantic coast, south of Virginia. The extreme ranges vary from 16° at Galveston, Texas, and 18° at Key West, Florida, to 65° at Fort Benton, Montana, and 66° at Phœnix and Willcox, Arizona.

The following stations report ranges of 53° or more: Phœnix and Willcox, Arizona, 66°; Fort Benton, Montana, 65°; Fort Bennett, Dakota, 62°; Wickenburg, Arizona, 61°; Huron, Dakota, 60°; Fort Shaw, Montana, 59°; Fort Bidwell, California, 58°; West Las Animas, Colorado, 58°; Alpena, Michigan, 58°; Fort Yates, Dakota, 57°; Fort Thomas, Arizona, 57°; Ashland, Oregon, 56°; Fort Bridger, Wyoming, 56°; Fort Verde, Arizona, 56°; Fort Craig, New Mexico, 56°; Pittsburg, Pennsylvania, 56°; Fort Apache, Arizona, 55°; Fort McDowell, Arizona, 55°; Prescott, Arizona, 55°; Fort Klamath, Oregon, 54°; Fort Thornburg, Utah, 54°; San Carlos, Arizona, 54°; Fort Custer, Montana, 54°; Cheyenne, Wyoming, 54°; Fort Totten, Dakota, 54°; Rochester, New York, 54°; Boston, Massachusetts, 54°; Port Huron, Michigan, 53°; Fort Maginnis, Montana, 53°.

Stations reporting monthly ranges of 30° or less are as follows: Cape Henry and Norfolk, Virginia, 30°; Olympia, Washington Territory, 29°; Portland, Oregon, 29°; Pike's Peak, Colorado, 29°; Pensacola, Florida, 28°; Linkville, Oregon, 28°; Savannah, Georgia, 28°; Charleston, South Carolina, 27°; Kitty Hawk, North Carolina, 27°; Brownsville, Texas, 27°; San Diego, California, 27°; Smithville, North Carolina, 25°; Cedar Keys, Florida, 23°; Jacksonville, Florida, 23°; Cape Mendocino, California, 23°; Fort Canby, Washington Territory, 22°; New Orleans, Louisiana, 22°; Fort Macon and Hatteras, North Carolina, 21°; Indianola, Texas, 21°; San Francisco, California, 21°; Key West, Florida, 18°; Galveston, Texas, 16°.

GREATEST DAILY RANGES OF TEMPERATURE.

The greatest daily ranges of temperature have varied in the several districts as follows:

New England.—From 20° on the summit of Mount Washington, New Hampshire, on the 12th, to 28° at Boston, Massachusetts, on 23d.

Middle Atlantic states.—From 19° at Atlantic City and Cape May, New Jersey, on the 15th and 21st, respectively, to 29° at Washington, District of Columbia, on the 15th.

South Atlantic states.—From 13° at Fort Macon, North Carolina, on the 17th, to 30° at Augusta, Georgia, on the 17th.

Florida peninsula.—From 14° at Key West, on the 14th, to 27° at Sanford, on the 17th.

East Gulf states.—From 17° at New Orleans, Louisiana, on the 12th, to 29° at Montgomery, Alabama, on the 17th.

West Gulf states.—From 12° at Galveston, Texas, on the 12th, to 36° at Fort Smith, Arkansas, on the 1st.

Rio Grande valley.—From 24° at Brownsville, Texas, on the 2d, to 30° at Rio Grande City, Texas, on the 1st.

Tennessee.—From 26° at Memphis, on the 2d, to 32° at Knoxville, on the 21st.

Ohio valley.—From 23° at Cincinnati, Ohio, on the 15th, to 39° at Pittsburg, Pennsylvania, on same date.

Lower lake region.—From 24° at Detroit, Michigan, on the 21st, to 33° at Rochester, New York, on the 2d.

Upper lake region.—From 23° at Escanaba, Michigan, on the 21st, to 32° at Alpena, Michigan, on the 9th.

Extreme northwest.—From 32° at Bismarck, Dakota, on the 27th, to 36° at Fort Totten, Dakota, on the 5th.

Upper Mississippi valley.—From 22° at Cairo, Illinois, on the 14th, to 31° at Des Moines, Iowa, on the 25th.

Missouri valley.—From 25° at Omaha, Nebraska, on the 29th, to 46° at Fort Bennett, Dakota, on the 11th.

Northern slope.—From 26° at Helena, Montana, on the 20th, to 43° at Fort Custer, Montana, on the 9th and 20th.

Middle slope.—From 20° on the summit of Pike's Peak, Colorado, on the 15th, to 49° at West Las Animas, Colorado.

Southern slope.—From 32° at Fort Stockton, Texas, on the 1st, to 37° at Fort Sill, Indian Territory, on same date.

Southern plateau.—From 29° at Fort Grant, Arizona, on the 29th, to 49° at Fort Apache, Arizona, on the 28th.

Middle plateau.—32° at Salt Lake City, Utah, on the 4th.

Northern plateau.—From 32° at Spokane Falls, Washington Territory, and Boisé City, Idaho, on the 19th, to 38° at Dayton, Washington Territory, on the 16th.

North Pacific coast region.—From 14° at Fort Canby, Washington Territory, on the 12th, to 25° at Portland, Oregon, on the 17th and 26th.

Middle Pacific coast region.—From 16° at Cape Mendocino, California, on the 15th, to 34° at Red Bluff, California, on the 27th.

South Pacific coast region.—From 22° at San Diego, California, on the 15th, to 36° at Los Angeles, California, on the 16th and 19th.

FROSTS.

Frosts occurred, during September, in the several states and territories as follows:

Arizona.—Fort Apache, 9th; Wickenburg, 8th; Prescott, 8th, 15th.

California.—Princeton, 9th; Hydesville, 29th; Sacramento, 30th; Fort Bidwell, 2d, 26th.

Colorado.—Fort Lewis, 15th, 16th, 17th, 18th, 26th. 27th; Grand Junction, 10th, 27th; Pike's Peak, 2d, 20th; Denver, 10th, 24th, 30th.

Connecticut.—Southington, 14th, 15th.

Dakota.—Webster, 11th, 20th; Fort Buford, 9th, 19th, 30th; Fort Totten, 24th, 30th; Bismarck, 7th, 27th, 30th; Fort Yates, 29th; Huron, 11th; Fort Bennett, 27th, 30th; Fort Sully, 28th, 30th; Deadwood, 16th, 20th.

Idaho.—Lewiston, 26th; Coeur d'Alene, 7th; Boisé City, 3d, 6th, 15th, 16th, 25th, 29th.

Illinois.—Swanwick, 18th, 20th.

Indiana.—Logansport, 21st; Wabash, 21st, 25th.

Iowa.—Cresco, 17th, 18th, 20th, 25th; Independence, 11th, 18th, 20th; Logan, 20th; Monticello, 25th; Humboldt, 20th; Manchester, 12th, 18th; Maynard, 12th, 20th, 25th; Keokuk, 25th.

Kansas.—Allison, 11th, 17th; Sherlock, 17th.

Maine.—Cornish, 13th, 14th, killing vegetation on the latter date; Gardiner, 14th, 15th; Orono, 13th, 14th, 15th. 19th; Bangor, 13th, 14th, 15th, 19th; Eastport, 20th; Portland, 14th.

Massachusetts.—Milton, 14th; Somerset, 14th, 15th; Westborough, 14th, 15th, 27th; Williamstown, 12th, 13th; Heath, 14th; Rowe, 14th, 19th, killing tender vegetables on the first-named date; Taunton, 14th, 15th; Worcester, 14th, 15th.

Michigan.—Lansing, 21st, 22d, 25th; Thornville, 19th; Ionia, 1st, 26th; Swartz Creek, 12th, 18th, 20th; Hillsdale, 21st; Hudson, 21st; Mottville, 21st; Manistique, 20th; Grand Haven, 21st, Alpena, 14th, 19th, 21st, 23d; Port Huron, 19th; Marquette, 22d, 29th.

Minnesota.—Chester, 11th, 18th, 20th, 25th, 29th; Saint Vincent, 19th, 20th, 25th, 27th; Moorhead, 20th, 27th, 30th.

Montana.—Fort Maginnis, 7th, 26th, 29th, 30th; Fort Benton, 7th, 9th, 26th, 30th; Helena, 6th, 7th; Fort Shaw, 7th; Fort Assinaboine, 7th, 9th, 29th, 30th; Fort Custer, 30th; Poplar River, 4th, 9th, 30th.

Nebraska.—Fort Robinson, 9th; Genoa, 11th, 20th; Red Willow, 11th, 17th; Crete, 20th.

Nevada.—Carson City, 6th, 10th, 11th, 12th, 14th to 20th; 22d to 28th, 30th.

New Hampshire.—Antrim, 19th; Mount Washington, 12th to 15th, 18th, 19th, 23d, 27th.

New Mexico.—Fort Stanton, 9th.

New Jersey.—Somerville, 14th; Readington, 14th, 15th.

New York.—Cooperstown, 14th, 21st; North Volney, 14th, 15th, 21st; Palermo, 14th, 19th; Factoryville, 14th, 15th; Ithaca, 14th, 15th, 19th, 26th; Menand Station, 14th, 19th, 20th, 26th; Mountainville, 14th, 15th, 18th, 19th, 21st; Humphrey, 11th, 12th, killing vegetation on latter date; Auburn, 14th; Sycamore, 13th; Rochester, 19th; Oswego, 14th, 19th, 21st; Buffalo, 19th.

North Carolina.—Flat Rock, 15th, 16th.

Ohio.—North Lewisburg, 14th, 21st; Portsmouth, 17th; Westerville, 19th, 21st; Wauseon, 19th, 21st; Garrettsville, 14th, 21st; New Athens, 19th; Columbus, 21st.

Oregon.—Fort Klamath, 1st, 2d, 3d, 10th to 20th, 23d, 24th.

Pennsylvania.—Catawissa, 14th, 15th, 21st; Dyberry, 13th, 14th, 15th, 19th, 21st, 22d; Dillingersville, 13th, 14th; Troy, 13th, 14th, 18th, 20th, 29th; Drifton, 14th; Erie, 14th. A light frost occurred at Mount Washington, a suburb of Pittsburg, on the morning of the 19th.

Utah.—Fort Thornburg, 9th, 10th; Salt Lake City, 10th, 16th, 27th.

Vermont.—Charlotte, 26th; Newport, 14th; Strafford, 13th, 14th, 19th; Burlington, 14th, 19th, 21st, 23d, 26th; Chester, 14th.

Virginia.—Wythville, 13th, 14th. The observer at Lynchburg states that light frost was reported to have occurred on morning of the 15th, in the vicinity of Dublin, Pulaski county.

Washington Territory.—Bainbridge Island, 26th; Dayton, 12th, 26th; Spokane Falls, 7th, 8th, 12th, 26th; Fort Spokane, 3d, 8th; Crescent Bay, 30th.

Wisconsin.—Embarras, 20th; Lancaster, 18th, 20th, 25th.

Wyoming.—Cheyenne, 10th, 11th, 27th, 30th; Fort Bridger, 3d, 10th, 11th, 15th, 16th, 17th, 24th, 30th.

ICE.

The formation of ice has been reported as follows:

Dakota.—Fort Buford, 30th.

Idaho.—Boisé City, 25th; the first ice of the season.

Montana.—Fort Maginnis, 29th, the first ice of the season; one-quarter of an inch thick.

Ohio.—New Athens, 19th; one sixteenth of an inch thick.

PRECIPITATION.

[*Expressed in inches and hundredths.*]

The distribution of rainfall over the United States and Canada, for September, 1884, as determined by the reports from more than eight hundred stations, is exhibited on chart iii.

The precipitation for the month is largely deficient in the states east of the Mississippi river, except in western Tennessee, the central and lower portions of the Ohio valley, in the vicinity of Atlanta, Georgia, and in portions of the Carolinas, where it is in excess of the average. It is also below the average in the lower part of the Red river valley (the deficiency at Shreveport, Louisiana, amounting to 2.29); in southeastern Dakota, and over the middle and southern slopes. In the table of average precipitation, the mean deficiency for the middle Atlantic states, as determined from comparison of reports for fourteen stations is 3.72; over a large part of this district, the deficiency exceeded 4.00, and in the vicinity of Norfolk, Virginia, and thence southward to Hatteras, North Carolina, it varied from 5.06 at the former station, to 6.97 at the latter. In the south Atlantic states, while the average deficiency (for eleven stations), as shown by the table, is 1.93; the area of deficiency, however, does not include the entire district, but in the vicinities of Augusta, Georgia; Charlotte and Wilmington, North Carolina, and Charleston, South Carolina, the precipitation is in excess of the average; the departure at the last named station is 4.59, and at the other stations named, it varies from from 0.27 to 1.68; In the eastern Gulf states, the average deficiency (for seven stations), is 1.97, the departure varying at the several stations, from 1.27 at New Orleans, Louisiana, to 3.18, at Atlanta, Georgia, while at Vicksburg, Mississippi, an excess of 0.88; is shown. The deficiency in central and eastern Tennessee, amounts to 1.04, at Nashville; 2.09, at Chattanooga, and 2.73, at Knoxville. In the upper lake region, the average precipitation for eleven stations, is about normal, although a deficiency occurs over a large part of the district; at Escanaba, Michigan, the monthly rainfall is 8.77, or an excess of 4.71, as compared with the September average for the last thirteen years. In the lower lake region, the deficiency is general and averages 0.51, for the district. In the middle and southern slopes, the area of deficiency includes all of both districts except southwestern Texas, where an excess occurs.

The precipitation for September is excessive in the following districts; the Valley of the Red river of the North; the lower portions of the Missouri and Arkansas valleys; throughout the Mississippi valley, except in the vicinity of New Orleans; the central and southern portions of the Ohio valley; in the north plateau; northern slope; northern and middle Pacific coast regions; Utah; and the Rio Grande valley. The table shows a slight deficiency for the Missouri valley, while in the northern and southern portions, the precipitation is excessive, being deficient, as before stated, in southeastern Dakota. In the lower portions of the Ohio, Missouri and Ar-